

Climatological Data for March, 1910.
DISTRICT No. 9, COLORADO VALLEY,

FREDERICK H. BRANDENBURG, District Editor.

GENERAL SUMMARY.

The month was remarkable for sustained high temperature, the means in almost all parts of the district being the highest yet observed in March. In many respects the month resembled March, 1900, very closely, but the temperatures in the northern half of the district were materially higher than in that year. The excess in temperature was accompanied by a marked deficit in precipitation; there was no rainfall of importance until near the close of the month. The unusual warmth of the early part of the month caused rapid melting of the snow on the northern watersheds. As a consequence, the streams rose rapidly, and the ice broke up in large masses. Numerous ice gorges formed, backing the water onto the adjacent lands, and several bridges were carried out. Vegetation was more advanced than usual at the close of the month, but not sufficiently forward to be much harmed by the freeze of the 29th and 30th.

TEMPERATURE.

The mean of the 124 stations reporting was 50.4°, or 5.8° above the normal. The means were, as usual, highest in southern Arizona, but the greatest excesses occurred in the northern part of the district. The highest monthly mean was 72.0° at Casa Grande, Ariz., and the lowest, 24.4°, at Corona, Colo. By subdivisions the means and departures were: Western Wyoming, 33.9°, +8.5°; western Colorado, 39.5°, +6.9°; eastern Utah, 46.1°, +7.0°; western New Mexico, 50.6°, +6.1°; Arizona, 59.5°, +4.9°.

There was a remarkable uniformity in the distribution of the daily departures from normal throughout the district. The opening week was remarkably warm, the 4th being usually the warmest day, with temperatures from 12° to 20° above the normal. From the 8th to 11th it was slightly cooler, but still 4° to 5° above the normal. A second warm wave, with departures about 12° above the normal, occurred from the 12th to the 14th. Slightly cooler weather prevailed on the 15th, after which the temperatures rose steadily until the 21st, reaching their highest on that or the following day. On the 22d temperatures were slightly below the normal in southwestern Arizona for the first time during the month. The fall in temperature continued until the 26th, and the weather remained unusually cold until the 29th. At the close of the month the temperature was rising rapidly, and was above the normal in the extreme south. The highest reading was 100° at Parker, Ariz., on the 2d and subsequent dates, and the lowest, -7°, at Gunnison, Colo., on the 4th.

PRECIPITATION.

The precipitation during the month was about one-half of the normal, the mean of 174 stations being 0.56 inch, and the deficiency, 0.53 inch. A very few stations in northern Arizona and in Utah reported a slight excess; the greatest deficit occurred in the eastern part of the district, on the slopes of the Continental Divide. By subdivisions the means and departures were: Green, 0.64, -0.57 inch; Grand, 0.64, -0.81 inch; San Juan, 0.81, -0.59 inch; Little Colorado, 0.64, +0.04 inch; Gila and tributaries, 0.44, -0.53 inch; lower Colorado, 0.61, -0.13 inch. The greatest monthly amount was 3.14 inches at Corona, Colo.; 12 stations reported no precipitation, and about the same number but a trace.

At the close of the month the average depth of snow at the high level stations in western Colorado was 12.6 inches, a decrease of 22 inches since the close of February. Several stations above 9,000 feet in elevation reported no snow except in the timber and on northern slopes.

On the 9th and 10th light snow fell at the higher stations on the Continental Divide; on the 15th there was a moderate fall in the San Juan Mountains and the adjacent parts of Utah and New Mexico. By far the heaviest snow of the month began in Utah and Arizona on the 25th, and extended over the remainder of the district on the 26th. On the 27th and 28th scattered precipitation occurred, and on the 29th the snowfall was generally heavy. At Flagstaff, Ariz., there was 2.13 inches of precipitation in 24 hours on the 25th and 26th, and in the neighboring mountains the fall was correspondingly heavy.

RIVERS.

The northern tributaries of the Colorado rose rapidly in the early part of the month and caused considerable damage, especially in the valleys of the Gunnison and Yampa. The crest due to this rise reached Yuma on the 15th, the discharge increasing from 7,900 second-feet on the 4th to 40,200 second-feet on the 15th. From the 15th to the close of the month there was a gradual decline. There was a considerable rise in the northern tributaries of the Gila following the heavy precipitation of the 26th. At the Roosevelt Dam there was a net gain of 25,000 acre-feet during the month. In southwestern New Mexico, in the valley of the Mimbres, San Francisco, and upper Gila there was a serious shortage of irrigation water, and stock on the range was reported in poor condition. In this vicinity there has been very little snow during the winter.

MISCELLANEOUS.

There was a decided excess of sunshine in the northern half of the district, about 22 days being reported clear. At Grand Junction there were 17 days with more than 90 per cent of sunshine. In Arizona the percentage of the possible sunshine ranged from 85 per cent at Flagstaff to 91 per cent at Yuma. The relative humidity was low, especially in the north. There was much high wind from the 22d until the close of the month.

The following account of the March flood in the White River is based on the report forwarded by Mr. T. Baker, Cooperative Observer at Meeker, Col.:

The flood was due primarily to the steady cold of the winter and the formation of an ice gorge of great depth. Before the thaw the river was frozen to a depth of 10 feet in the main channel, and the adjacent lowlands were covered with water and ice. With the coming of the warm weather early in March, the snow on the mesas and hillsides melted rapidly and the creeks and arroyos soon carried down a greater volume of water than previously known. The channel being filled with ice, the water overspread the lowlands along the river. Many people living in the lowlands had their houses flooded from 1 to 3 feet in depth, the damage extending all the way from Meeker, Colo., to the Utah-Colorado border, a distance of 90 miles. There was no loss of life and but little loss of stock. All the bridges on Piceance Creek, an important tributary of the White, were carried out. On the White River proper many bridges were injured, but none carried out, as the authorities had caused them to be raised above the danger limit. The flood was the greatest and most sudden since the settlement of the county.

THE POWER PROJECTS OF THE SALT RIVER VALLEY, ARIZ.

One of the most interesting features of the Salt River irrigation project, Arizona, is the development of power and the marvelous possibilities in that direction that a study of natural conditions discloses. The original idea of the Government Reclamation engineers was to develop power for pumping purposes only, after using the power developed at the Roosevelt Dam, for construction work. Supervising Engineer L. C. Hill states that there can easily be developed along the Salt River, and the canal system in the valley, between 25,000 and 30,000 horsepower. Four thousand horsepower has already been developed at the Roosevelt Dam, and as soon as the 3 new water wheels are installed, 8,000-horsepower will be available at the dam. Five thousand horsepower will be developed at

once in the valley, making a total of 13,000-horsepower available for all uses. Of this, about 5,000-horsepower will be needed ultimately for pumping. About 1,000-horsepower will be used in irrigating the Gila Indian Reservation, at Sacaton, and the rest will be sold by the Government. Contracts have already been let by the Reclamation Service for furnishing about 2,000-horsepower, and a number of other contracts are now pending. The first contract for power is already yielding returns of about \$60,000 per annum.

The Salt River Valley is developing rapidly, and several new electric railways are about to be constructed and old ones extended, and the owners of these lines expect to purchase power from the Government. The net returns from the power plants constitute a credit to the project, and will go far toward reducing the operation, maintenance and construction charges. After the project has been paid for, the entire operation, maintenance and betterment charges may be met by the profits on the power plants. Light and power are already being furnished in the city of Phoenix, and will be leased to the territorial institutions and for various other manufacturing industries.

The transmission line, recently completed, extending from Roosevelt Dam, over 100 miles down the Salt River Valley, will transmit power to pump underground water for about 40,000 acres of land, and part of the wells are now sunk. About 10,000 acres will be furnished with water from wells in 1910.

SNOWFALL IN THE MOUNTAINS OF COLORADO.

The amount of snow in the mountains at the close of March was much less than the normal on all watersheds. In the mountains, in common with the plains region, the weather conditions during the month differed greatly from those that are usual in March. There were few storms, with a correspondingly light snowfall. Bright sunshine and unusual warmth during the greater part of the month melted the snow covering of the higher valleys and unprotected slopes. The attending run-off, much of which was not utilized, would, under normal temperature conditions, have been delayed until April and May. However, melting has not yet begun at the very high altitudes, and only in a moderate degree in the timber and on northern slopes.

SNOWFALL IN ARIZONA.

The snowfall for March, 1910, was below the normal; being slightly greater than the amounts measured in February, 1910, and decidedly less than the measurements of March, 1909. Light snow fell over the southern counties on the 18th and 19th; copious rain fell over the central and northern counties on the 25th, changing into heavy snowfall in the Bradshaw, the White Mountain, the San Francisco and Mogollan ranges during the night of the 25th and the 26th, continuing to the 28th, and light snowfall in the mountain sections of the southeastern counties. The snow is soft and has begun to melt rapidly at and below the 8,500-foot level. Fully 95 per cent of the snow fell late on the 25th, the 26th, 27th, and 28th, depositing an average depth of about 10 to 40 inches in the mountain regions, much of which disappeared during the last 3 days

of the month. At the higher levels the surface snow has thawed and frozen alternately, causing it to pack and settle.

There was a good run-off into the river beds of the central and northern counties on the 29th, 30th, and 31st, continuing into April, thus affording a moderate volume of water for all general purposes. Conditions are somewhat different in the southern section of the Territory, where the precipitation has been largely deficient since the first of the year; the river beds are almost dry, and range grass has not yet begun to sprout.

The present water supply is fully 50 per cent less than that available during the same period of last year, and there are prospects of a further shortage in the water supply of the Gila, the Salt, and Verde drainage areas during the late spring and early summer months.

The snow will melt unusually early this season. There will be a moderate flow of water in the Colorado River during the coming summer months, while for the same period, in the Little Colorado River drainage area, there will be a shortage.

There is a marked improvement in the ranges throughout the central and northern counties.

The average depth of snow in the valleys and mountains at the end of the month was about as follows: In the Salt and Verde area, in valleys, trace, in mountains, 4.6 inches; Gila area, in valleys, 0.0 inch, in mountains, 4.7 inches; Agua Fria and Hassayampa area, in valleys, trace, in mountains, 0.2 inch; Little Colorado area, in valleys, 0.7 inch, in mountains, 35.2 inches.

THE CANYON DIABLO METEORITE.

Under operation, in Coconino County, near Canyon Diablo, Ariz., at the present time, is one of the most novel and important mining projects that has ever been undertaken in the southwest, that of the attempt to recover a large meteorite which is supposed to be imbedded in the ground at the point now being worked.

This gigantic mining task is under the supervision of Mr. S. P. Holsinger, a prominent mining engineer of the northern part of the Territory, well known in business circles.

In speaking of this movement, Mr. Holsinger stated that it was his firm belief, supported by the theories of many scientific men, that the immense displacement in evidence at the point he is sinking on, is not an extinct crater, but that the large opening is, in reality, due to the intrusion of the soil by a meteorite that entered the ground generations ago.

From rim to rim this opening is about 4,900 feet, and from what Mr. Holsinger can learn, it is supposed that the meteorite is lying at a depth practically of 600 feet. The dimensions of this heavenly body is computed as at least 300 feet in diameter, and has value in the minerals it holds, especially in nickel, at several hundreds of thousands of dollars.

Up to the present time the depth, in a vertical shaft, reached is about 200 feet, where a body of water was encountered. Pumping machinery is to be introduced, when sinking will be resumed. The formation favors this noteworthy work of exploitation; and, if the large ball is recovered, individual achievement will be handsomely rewarded.

TABLE 1.—Climatological data for March, 1910. District No. 9, Colorado Valley.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelting.	Number of rainy days, all or more.	Number of clear days.	Number of partly cloudy days.		Number of cloudy days.	Prevailing wind direction.
Wyoming.																				
Daniel	Uinta	6,740	11	29.2	+ 7.9	57	21	- 1	10	45	1.90	+ 0.67	0.80	19.0	4	16	14	1	nw.	J. M. Van Dervort.
Dixon	Carbon																			Chas. Spillman.
Eden	Sweetwater	6,577	12	33.6		66	20	14	30†	41	0.49		0.40	1.6	12	18	9	4	w.	Eden Valley L. and I. Co.
Green River	do	6,083	5	42.8	+ 9.1	75	20	16	30	46	0.04	- 0.62	0.02	0.2	3	22	4	5	w.	Geo. H. Maxon.
Kendall	Fremont	7,630																		Art. Doyle.
Pinedale	do	7,167	4	30.0		59	20	2	11†	42	0.26		0.10	6.0	3	17	13	1	nw.	U. S. Forest Service.
Rambler	Carbon	9,232									1.60		0.90	17.5	3	20	8	3	w.	J. C. Fothergill.
Colorado.																				
Ashcroft	Pitkin	9,483	8	31.4		60	21	- 2	20	39	0.59		0.16	8.0	5					Dan McArthur.
Breckenridge	Summit	9,536	20	29.4	+ 6.3	55	22	- 3	30	44	0.33	- 2.72	0.24	4.4	12	10	15	6	nw.	Mrs. J. G. Thompson.
Cascade	San Juan	8,900	4																	San Juan P. and W. Co.
Chromo	Archuleta	7,500	4																	Lawrence Nolan.
Cochetopa	Saguache	9,088									0.25		0.15	4.0	12	13	15	3	nw.	Bessie McDonough.
Collbran	Mesa	6,000	17	45.4		70	20†	19	30	32	0.14	- 1.70	0.09	0.0	3	26	1	4	sw.	A. A. Wood.
Columbine	Routt	8,766									1.13		0.39	11.2	4	18	11	2	sw.	Mrs. M. A. Caron.
Columbine Ranch	Delta	6,925									0.41		0.32	2.0	12	22	6	3	s.	Geo. W. Wade.
Corona	Grand	11,660	3	24.4		44	19†	- 1	20	28	3.14		0.88	32.2	7	21	4	6	w.	U. S. Weather Bureau.
Crawford (near)	Montrose	6,600		43.1		67	22	18	30	32	0.12		0.12	0.0	1	25	2	4		C. W. Roe.
Crested Butte	Gunnison	8,867		27.8		56	22	0	10	41	0.62		0.37	0.0	12	26	2	3		Charles L. Ross.
De Beque	Mesa	4,935		49.3		76	16†	25	31	49	0.31		0.30	T.	2	26	1	4		C. M. Payne.
Dillon	Delta	4,965	19	48.4	+ 7.2	79	21	19	10	50	T.	- 0.90	T.	0.0	0	26	4	1	n.	E. M. Getts.
Dolores	Summit	8,800	1								0.50		0.33	6.0	2	24	6	2	n.	Harry T. Hamilton.
Durango	Montezuma	6,500	1	49.5		74	22	26	6	41	0.75		0.34	0.8	3	14	14	3	nw.	Geo. R. Simmons, jr.
Eagle	La Plata	6,534	17	44.4	+ 6.9	70	19	22	31	39	0.64	- 1.02	0.34	1.3	5	14	15	2	nw.	U. S. Weather Bureau.
Eureka	Eagle	6,598	5	38.8		68	21	16	31	46	T.		T.	T.	0	26	2	3	w.	J. M. Witteman.
Eureka	San Juan	10,000	3																	San Juan P. & W. Co.
Fraser	Grand			29.0		60	22	- 2	30	44	0.40		0.20	4.1	3	24	4	3	n.	L. D. C. Gaskill.
Fruita	Mesa	4,510	11	48.8	+ 6.7	78	21†	20	30	44	0.28	- 0.77	0.28	0.0	1	23	4	4	nw.	J. B. Willsea.
Gladstone	San Juan	10,400	3																	San Juan P. & W. Co.
Glenwood Springs (near)	Garfield	5,823	12	43.8	+ 5.0	73	20†	19	31	44	0.44	- 0.68	0.40	0.0	2	26	1	4	w.	E. A. O'Neil.
Grand Junction	Mesa	4,608	19	51.2	+ 7.7	77	21	25	30	35	0.11	- 0.60	0.11	T.	1	23	4	4	nw.	U. S. Weather Bureau.
Grandlake	Grand	8,152	2								0.75		0.50	8.5	2	28	1	2		Mrs. Belle Kauffman.
Grand Valley	Garfield	5,089	18	48.3	+ 9.0	77	20†	24	51	45	0.36	- 9.06	0.30	0.0	4	23	4	4		David Evans.
Gunnison	Gunnison	7,670	17	26.8	- 0.1	60	21	- 7	4	43	0.05	- 0.60	0.05	T.	1	28	2	1	sw.	Clarence Adams.
Hayden	Routt	6,337	1																	C. W. Harkness.
Hesperus	La Plata	8,870	11																	John S. Spear.
Horsefly	Montrose	8,700																		L. J. Finch.
Ironton	Ouray	10,000									1.62		1.00	19.2	3	19	8	4	sw.	P. H. Foley.
Kremmling (near)	Grand	7,337	2	37.2		65	20†	10	30	43	0.30		0.20	4.0	2	19	6	6		H. A. Howe.
Lake City	Hinsdale	8,686	5	36.2		63	6	8	29	44	1.05		0.35	9.6	6	20	7	4	n.	J. F. Maurer.
Lay	Routt	6,190	16	30.8	+ 8.8	69	20	15	30	47	0.38	- 1.22	0.22	2.0	3	24	2	5	sw.	A. G. Wallihan.
Leal	Grand	8,750									0.80		0.60	7.0	3	25	5	1		I. J. Wade.
Lujan	Montrose	6,620	4	45.6		71	21†	18	5	51	0.18		0.18	1.5	2	24	5	12	sw.	U. S. Reclamation Service.
Mancos	Montezuma	6,960	11	44.4	+ 6.9	70	20	10	30	38	1.46	- 0.68	0.64	9.5	4	20	8	3	sw.	B. M. Krumpalitzky.
Marble	Gunnison	7,051	1	38.2		62	20†	4	10	43	0.47		0.28	9.0	5	21	6	4	ne.	Homer Harrington.
Marshall Pass	Saguache	10,846	7								0.58		0.58	18.0	2	22	5	4	w.	William D. Lillard.
Meeker	Rio Blanco	6,182	18	42.3	+ 8.2	72	20	15	30	44	0.24	- 1.44	0.10	T.	3	23	5	3	sw.	T. Baker.
Montrose (near)	Montrose	5,811	21	44.2	+ 4.6	72	21†	18	10	44	0.00	- 0.78	0.00	0.0	0	23	6	2		R. Butterfield.
Nast	Pitkin	7,953		32.0		57	21	1	10	39	0.59		0.42	6.7	2	25	3	3	w.	Arthur Hanthorn.
Pagoda	Routt	6,500	19	41.1	+ 9.5	70	20	4	30	42	1.30	- 0.86	0.80	11.0	2	27	1	3		Shaw Brothers.
Pagosa Springs	Archuleta	7,108	3	38.7		67	19†	6	1	48	0.76		0.43	4.0	20	4	7	sw.	E. T. Walker.	
Paonia	Delta	5,694	15	49.0		75	20†	20	30	38	0.23	- 0.80	0.23	T.	1	17	10	4	sw.	J. M. Underwood.
Parshall	Grand										0.11		0.06	2.0	2					F. A. Field.
Pitkin	Gunnison	9,500	1								0.42		0.21	4.2	3	20	5	6	s.	Mrs. Maggie Cammann.
Rangely	Rio Blanco	5,050	11	43.3	+ 10.3	74	21†	15	1†	41	0.39	- 0.67	0.39	T.	1	13	14	4	w.	Mrs. C. P. Hill.
Redcliff	Eagle	8,695	15								2.10	+ 0.10	0.80	24.5	5	22	3	6		Dorothea Greiner.
Rico	Dolores	8,824	8								1.00		0.31	14.2	4	18	9	4	sw.	Clinton B. Smith.
River Portal	Montrose	6,570	4	42.4		71	20	19	9	40	0.18		0.18	1.3	1	25	2	4		U. S. Reclamation Service.
Sapinero	Gunnison	8,125	8	32.5		58	22	9	30	36	1.04		0.58	8.4	5	23	4	4	w.	W. F. Irving.
Shoshone	Garfield	6,110									0.45		0.43	T.	2	15	12	4		Central Colo. Power Co.
Silt	do	5,441	13																	W. S. Park.
Silverton (1)	San Juan	9,285	6	32.5		60	19†	- 2	27	53	2.30		0.90	20.2	6	25	1	5	sw.	A. P. Root, jr.
Silverton (near)	do	9,400	3																	San Juan P. & W. Co.
Spruce Lodge	Grand	9,690	2								1.33		0.59	15.0	7					H. J. Willis.
Steamboat Springs	Routt	6,953	7	34.6		64	22	4	10	46	0.49		0.24	3.0	4	26	1	4		M. E. Houston.
Tacoma	La Plata	7,300	3																	San Juan P. & W. Co.
Terminal Dam	do	8,300	3																	Do.
Uncompahgre Plateau	Montrose	8,400									0.72		0.46	8.2	3	16	11	4	sw.	Martin Esser.
Whitepine	Gunnison	9,500	10	28.4		52	21	- 5	30	38	0.64		0.50	8.0	2	24	4	3	s.	C. E. Macy.
Yampa	Routt	8,000	1								0.26		0.18	3.2	2	16	11	4	s.	Percy A. Hughes.
Utah.																				
Baker	San Juan	7,560	1								2.00		1.95	1.5	2	23	2	6	s.	Maude A. Palmer.
Basin	Grand	9,500	1								2.60		1.32	26.0	6	13	5	3	sw.	E. H. Wolf.
Castle Dale	Emery	5,500	11	42.4		74	21													

TABLE 1.—Climatological data for March, 1910. District No. 9—Continued.

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				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelting.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.		Number of cloudy days.
Utah—Cont'd.																			
Vernal.....	Uinta.....	5,050	15	44.8	+ 8.8	75	20†	19	30	44	0.07	- 0.86	0.07	0.0	1	22	7	2	Joab Collier.
New Mexico.																			
Alma.....	Socorro.....	5,500	11	53.0	+ 6.2	85	6†	21	5†	63	0.10	- 0.79	0.10	0.0	1	8	20	3	M. A. Balke.
Aragon.....	do.....	5,856	3	40.6		71	5	6	11	51	0.75		0.75	7.0	1	14	15	2	John R. Milligan.
Blackrock.....	McKinley.....	6,500	2	49.3		73	5†	23	2†	44	0.29		0.15	2.5	3	11	20	0	Wm. J. Oliver.
Bloomfield.....	San Juan.....	5,500	15																Fred Le Clerc.
Cambray.....	Luna.....	4,215	11								0.08	- 0.31	0.08	0.0	1	17	13	1	Southern Pacific Co.
Columbus.....	do.....	4,054				84	25	30	30		1.13		1.10	0.0	2	19	5	7	El Paso & Southwest. R.R.
Deming.....	do.....	4,333	33	57.2		88	8	28	29†	51	0.19	- 0.29	0.19	0.0	1	18	8	5	Southern Pacific Co.
Dulce.....	Rio Arriba.....	6,767	12	43.3	+ 0.7	82	24	16	1	50	0.82	- 0.41	0.35	4.0	4	17	8	6	John M. Commons.
Fort Bayard.....	Grant.....	6,152	35	55.0	+ 8.9	79	6†	25	28	38	T.	- 0.08	T.	T.	0	24	7	0	U. S. Gen'l. Hospital.
Fort Wingate.....	McKinley.....	6,997	46																Post Hospital.
Fruitland.....	San Juan.....	4,800	17	49.6	+ 5.8	81	22	19	30	50	0.05	- 0.25	0.05	0.0	1	22	5	4	Cyril James Collyer.
Gage.....	Luna.....	4,486	3	56.8		85	5†	27	27	48	0.20	- 0.47	0.20	0.0	1	20	8	3	Southern Pacific Co.
Gila (near).....	Grant.....	4,470	11	54.0	+ 3.0	87	5	22	26†	61	0.00	- 0.64	0.00	0.0	0				Miss Cozella Clark.
Hachita.....	do.....	4,504									0.36		0.31	0.0	2	19	9	3	El Paso & Southwest. R.R.
Haynes.....	Rio Arriba.....	6,600									0.69		0.34	3.4	5	27	3	1	Dr. John Roger Haynes.
Hermanes.....	Luna.....	4,451									T.		T.	0.0	0	25	3	3	El Paso & Southwest. R.R.
Lordsburg.....	Grant.....	4,245	10	56.6	+ 3.2	87	5	26	28	53	0.00	- 0.51	0.00	0.0	0	24	2	5	Southern Pacific Co.
Luna (near).....	Socorro.....	7,300	5	41.8		71	6†	12	27	52	T.		T.	T.	0	4	27	0	C. B. Martin.
Manuelito.....	McKinley.....	6,252	5	50.0		76	6	17	11	57	T.		T.	T.	0	15	8	8	Mrs. H. F. Frick.
Mimbres.....	Grant.....	5,007	5								0.00		0.00	0.0	0	22	7	2	Chas. Dennis.
Pratt.....	do.....	4,415									0.00		0.00	0.0	0	28	2	1	El Paso & Southwest. R.R.
Putnam.....	San Juan.....	6,200									0.19		0.14	0.0	3	24	6	1	Richard Wetherill.
Redrock.....	Grant.....	4,150	5								0.00		0.00	0.0	0	16	12	3	Robert N. Woods.
Rodeo.....	do.....	4,118									0.19		0.16	0.0	2				El Paso & Southwest. R.R.
Rosa.....	Rio Arriba.....	6,000	5								0.03		0.02	0.8	2	27	0	4	B. A. Candelaria.
Arizona.																			
Allaire Ranch.....	Cochise.....	4,184	14								0.12	- 0.63	0.12	T.	1	25	3	3	Thos. Allaire.
Arizona Canal Dam.....	Maricopa.....	1,372	15	66.2	+ 5.3	94	21	43	28	43	1.00	+ 0.13	0.80	0.0	3	15	4	2	U. S. Reclamation Service.
Astec.....	Yuma.....	492	12	64.4	+ 0.9	96	5	36	27	51	0.10	- 0.28	0.10	0.0	1	22	2	7	Southern Pacific Co.
Benson.....	Cochise.....	3,533	28	60.0	+ 3.7	91	7†	30	27	51	0.13	- 0.38	0.08	0.0	2	17	10	4	Southern Pacific Co.
Biabe.....	do.....	5,500	20	56.9	+ 4.8	78	3†	31	29	32	0.07	- 1.03	0.04	0.0	2	24	5	2	Rev. J. G. Pritchard.
Bonita.....	Graham.....	4,916									0.00	- 0.86	0.00	0.0	0	19	4	8	A. Johnson & Co.
Bowie.....	Cochise.....	3,756	33	63.7	+ 8.8	89	6	38	12	48	0.00	- 1.06	0.00	0.0	0	25	0	6	Southern Pacific Co.
Buckeye.....	Maricopa.....	980	17	63.2	+ 3.5	94	8†	35	28	54	0.18	- 0.51	0.18	0.0	1	26	4	1	H. E. Kell.
Canille.....	Santa Cruz.....	5,225	1								0.50		0.30	T.	2	15	14	2	R. A. Rodgers.
Casa Grande.....	Pinal.....	1,396	28	72.0	+ 9.9	99	13†	38	25	41	0.75	+ 0.30	0.75	0.0	1	35	4	2	Southern Pacific Co.
Cave Creek.....	Maricopa.....	1,522	3	62.2		91	6†	33	27	48	1.00		0.78	0.0	2	23	6	2	E. A. Howard.
Chin Lee.....	Apache.....	6,090	2	46.3		77	5	11	30	49	0.12		0.12	T.	1	15	10	6	Fr. J. Ostermann, O. F. M.
Chlorsons Mill.....	Graham.....	8,000	3	48.8		80	20	19	27	47	2.54		0.95	19.0	4	19	8	4	H. R. Chlarson.
Clifton.....	Graham.....	2,584	10	66.6		91	5	30	30	46	0.04	- 0.87	0.04	0.0	1	19	8	4	P. Reisinger.
Cline.....	Gila.....	2,300	10	61.8	+ 5.9	90	6	34	27	52	1.29	- 0.16	1.22	0.0	3	14	12	5	W. M. Clanton.
Cochise.....	Cochise.....	4,219	11	54.6	+ 0.8	85	3†	24	31	55	0.10	- 0.68	0.10	0.0	1	23	7	1	Southern Pacific Co.
Columbia.....	Yavapai.....	1,900	11	66.6	+ 8.0	92	6†	40	26†	36	0.62	- 0.86	0.55	0.0	2	22	6	3	M. J. Nolan.
Congress.....	do.....	3,688	14	62.2	+ 5.6	84	5†	35	26	20	0.40	- 0.92	0.35	0.0	2	20	8	3	Congress Mine.
Courtland.....	Cochise.....	4,543	1								0.25		0.25	0.0	1	23	5	3	El Paso & Southwest. R.R.
Dos Cabezos.....	do.....	5,250	2	54.4		82	22	23	30	48	0.15		0.15	0.0	1	24	4	3	N. Erickson.
Douglas.....	do.....	3,930	7	60.6		91	5	28	27	56	0.10		0.10	0.0	1	21	9	1	Dr. F. T. Wright.
Dudleyville.....	Pinal.....	2,204																	G. F. Cook.
Fairbank.....	Cochise.....	3,862	1								T.		T.	0.0	0	20	2	0	El Paso & Southwest. R.R.
Flagstaff (I).....	Cocconino.....	6,067	18	41.1	+ 5.2	68	4	3	27	43	2.65	+ 0.84	2.13	18.5	4	15	8	8	U. S. Weather Bureau.
Florence.....	Pinal.....	1,504	11	68.6	+ 8.9	99	4	38	1†	52	0.45	- 0.47	0.45	0.0	1	19	6	6	Pacific & Eastern R.R.
Fort Apache.....	Navajo.....	5,200	30	51.3	+ 5.4	82	6†	23	30	53	0.62	- 0.90	0.60	T.	2	13	17	1	Post Hospital.
Fort Huachuca.....	Cochise.....	5,100	25	60.6	+ 7.9	87	7	31	30	45	T.	- 1.01	T.	0.0	0	29	1	1	Post Hospital.
Fort Mohave.....	Mohave.....	6,404	39	66.0	+ 2.7	94	5	34	1	56	0.06	- 0.38	0.06	0.0	1	26	4	1	A. F. Duclos.
Gilaband.....	Maricopa.....	737	19	68.6	+ 5.5	98	6	43	8†	49	0.20	- 0.42	0.18	0.0	2	21	7	3	Southern Pacific Co.
Globe.....	Gila.....	3,525	9	59.9		86	4†	34	26†	42	0.74		0.67	0.0	2	14	14	3	Dr. B. G. Fox.
Grand Canyon.....	Cocconino.....	6,866	7								0.55		0.30	5.5	3	22	6	3	Grand Canyon Ry.
Greer.....	Apache.....	9,200	6								0.00		0.00	0.0	0	25	5	3	Mrs. M. Butler.
Hereford.....	Cochise.....	4,180	1								0.00		0.00	0.0	0	26	2	3	El Paso & Southwest. R.R.
Holbrook.....	Navajo.....	5,069	21	51.4	+ 5.5	82	5	19	30	52	0.54	- 0.10	0.31	0.0	2	26	2	3	T. Larson.
Intake.....	Gila.....	2,230	3								1.00		0.70	0.0	3	27	3	1	A. J. Robinson.
Jerome.....	Yavapai.....	4,743	13	57.6	+ 6.1	81	5	30	28	28	2.48	+ 0.64	1.30	2.7	4	18	11	2	Dr. L. A. Hawkins.
Keams Canyon.....	Navajo.....	3,326	8	47.2		73	5†	23	11	43	0.35		0.32	T.	2	26	5	0	L. R. Ballard.
Kingman.....	Mohave.....	4,029	1								0.01		0.01	0.0	1	17	13	1	J. R. Gooding.
Lewis Springs.....	Cochise.....	1,186	33	67.0	+ 5.2	95	2†	44	12†	44	0.38	- 0.08	0.32	0.0	2	22	3	6	El Paso & Southwest. R.R.
Maricopa.....	Maricopa.....	1,244	14	66.2	+ 6.7	96	20†	41	17	47	0.79	+ 0.01	0.72	T.	2	17	13	1	Southern Pacific Co.
Mesa.....	Yuma.....	1,538	9	69.0	+ 1.8	96	6	43	25	41	T.		T.	0.0	0	23	7	1	C. L. Diehl.
Mohawk Summit.....	Cochise.....	4,679	1								0.00		0.00	0.0	0	27	3	1	Southern Pacific Co.
Naco.....	Gila.....	4,990	21								0.25	- 1.93	0.25	1.0	1	17	11	3	El Paso & Southwest. R.R.
Natural Bridge.....	Santa Cruz.....	3,830</																	

TABLE 1.—Climatological data for March, 1910. District No. 9—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.			Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelting.	Number of rainy days, .01 inch or more.	Number of clear days.		Number of partly cloudy days.	Number of cloudy days.
Arizona—Cont'd.																			
Thatcher.....	Graham.....	2,800	7																Prof. J. H. Larson.
Tombstone.....	Cochise.....	4,550	11	50.8	+ 5.9	87	5†	32	28	43	0.13	- 0.73	0.13	T.	1	21	10	0	F. N. Walcott.
Truxton.....	Mohave.....	4,197																	E. B. Atkinson.
Tuba.....	Coconino.....	4,500	12	51.0	+ 4.4	78	21	28	30	42	0.44	+ 0.01	0.36	T.	3	18	9	4	G. H. Kraus.
Tucson.....	Pima.....	2,390	30	83.1	+ 4.4	96	5	33	27	52	0.10	- 0.57	0.08	0.0	12	8	20	3	University of Arizona.
Vail.....	do.....	3,421	11	63.8	+ 2.0	89	21	38	27	39	0.07	- 0.39	0.06	0.0	12	22	7	2	Southern Pacific Co.
Walnut Grove.....	Yavapai.....	3,649	18								0.78	- 0.52	0.73	0.0	2	24	5	2	J. O. Carter.
Wickenburg.....	Maricopa.....	2,072		60.8	+ 4.0	90	5†	32	27	49	0.36	- 0.35	0.30	0.0	3	23	4	4	Santa Fe, Pres't & Phoenix
Willcox.....	Cochise.....	4,164	28	54.0	+ 1.2	89	6	22	3	62	T.	- 0.80	T.	0.0	0	11	2	18	Southern Pacific Co.
Williams.....	Coconino.....	6,750	8	42.6		70	4	16	27	43	0.92		0.40	9.0	4	18	12	1	E. J. Nordyke.
Winslow.....	Navajo.....	4,853	5	52.0		87	5	24	31	53	0.40		0.40	1.0	1	23	0	8	J. F. Bauer.
Yarnell.....	Yavapai.....	4,700	12								0.44	- 1.54	0.18	1.0	3	19	9	3	E. L. Bartholomew.
Yuma.....	Yuma.....	141	29	67.5	+ 3.0	98	4	41	28	46	0.02	- 0.33	0.02	0.0	1	26	3	2	U. S. Weather Bureau.
Nevada.																			
Las Vegas.....	Clark.....			56.5		96	7	28	24†	60	0.30		0.30	0.0	1	15	12	4	Salt Lake Route.
Logan.....	do.....			80.4		88	21	32	29	47	0.23		0.22	0.0	2	10	17	4	Ray M. Filcher.

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

* Precipitation included in that of the next measurement.

** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.

† Also on other dates.

‡ Separate dates of falls not recorded.

§ Data are from standard instruments not supplied by the U. S. Weather Bureau.

|| Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

¶ Estimated by observer.

||| Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—Daily precipitation for March, 1910. District No. 9, Colorado Valley.

Stations.	River basins.	Day of month.																															Total.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Wyoming.																																		
Daniel	Green	.80								.40													T.		T.		.40		.30				1.90	
Dixon	Snake									.09														T.	T.		.40		T.				0.49	
Eden	Green									T.														T.			.02		.01	.01			0.04	
Green River	do.																																	
Kendall	do.																																	
Pinedale	do.	.06								.10																	.10						0.26	
Rambler	Snake	T.								.10												T.					.90		T.	.60			1.60	
Willow Creek Cabin	Green																																	
Colorado.																																		
Ashcroft	Grand	.15								T.						T.											.16		.67	.14	.07		0.59	
Breckenridge	do.								T.							T.											.09		T.	.24			0.33	
Cascade	San Juan																																	
Chromo	do.																																	
Cochetopa	Gunnison										T.						T.										.10		.15				0.25	
Collbran	Grand									.03																	.09			.02			0.14	
Columbine	Yampa	.23								.39																	.37			.14			1.13	
Columbine Ranch	Gunnison																										.32	.09		T.			0.41	
Corona	Grand	.72								.16	.26																.02	.26		.84	.88		3.14	
Crawford	Gunnison																										.12						0.12	
Crested Butte	do.									T.																	.37		.25				0.62	
De Beque	Grand									.30																	.01						0.31	
Delta	Gunnison															T.											T.						T.	
Dillon	Grand	T.																									.17		T.	.33			0.50	
Dolores	Dolores															.20											.34			.21			0.75	
Durango	San Juan														.34		T.				T.					.08	.14		.06	.02			0.64	
Eagle	Grand	T.																									T.						T.	
Eureka	San Juan																																	
Fraser	Grand	T.									T.																						0.40	
Fruita	do.																																0.28	
Gladstone	San Juan																										.28							
Glenwood Springs	Grand		T.																								.40	.04					0.44	
Grand Junction	do.																										.11						0.11	
Grandlake	do.																																0.75	
Grand Valley	do.									.01																							0.36	
Gunnison	Gunnison																T.										.30	.03		.02			0.05	
Horsey	do.																																	
Ironton	do.														.17	T.												.45		T.	1.00		1.62	
Kremmling	Grand																										.20	.10		T.			0.30	
Lake City	Gunnison	.05														.33	.05											.35		.01	.26		1.05	
Lay	Yampa									.15																		.22			.01		0.38	
Lead	Grand																										.20		*	.60			0.80	
Lujane	Gunnison																												*	.18			0.18	
Mancos	San Juan															.10											.51		.12	.64			1.46	
Marble	Grand									.02																		.28	.07	*	.10		0.47	
Marshall Pass	Gunnison									T.							T.													.14	.44		0.58	
Meeker	White									.09																		T.	.10		.05		0.24	
Montrose	Gunnison																																0.00	
Nast	Grand									T.																	.17	T.	T.	.42	T.		0.59	
Pagoda	Yampa									T.																			.80		.50		1.30	
Pagosa Springs	San Juan															.08											.25		T.	.43			0.76	
Paonia	Gunnison																											.23		T.			0.23	
Parshall	Grand																										.05		.06				0.11	
Pitkin	Gunnison															.11											.21		T.	.10			0.42	
Rangely	White																											.39					0.39	
Redcliff	Grand				.30	.10	.80																										2.10	
Rico	Dolores															.31													.29		.09	.31	1.00	
River Portal	Gunnison																																0.18	
Sapinero	do.	.15															.02											.28	T.	.01	.58		1.04	
Shoshone	Grand																											.43					0.45	
Silverton (1)	San Juan	.10														.30												.90		.12	.86		2.30	
Silverton (near)	do.																																	
Spruce Lodge	Grand									.22	.03																		.24	.09	.08	.59	.08	1.33
Steamboat Springs	Yampa									.10																			*	.24	.15		0.49	
Tacoma	San Juan																																	
Terminal Dam	do.																																	
Uncompahgre Plateau	Gunnison									T.						.07												.46		.19			0.72	
Whitepine	do.																											.14			.50		0.64	
Yampa	Yampa																																	

[illegible]

TABLE 3.—Maximum and minimum temperatures at selected stations, March, 1910. District No. 9, Colorado Valley.

Date.	Wyoming.				Colorado.										Utah.												New Mexico.			
	Daniel.		Green River.		Durango.	Grand Junction.	Gunnison.	Meeker.	Steamboat Springs.	Emery.	Fort Duchesne.	Hite.	Moab.	St. George (Experiment station).	Fort Bayard.	Fort Wingate.														
	Max.	Min.	Max.	Min.													Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1...	47	22	48	29	58	28	57	28	35	3	51	32	52	27	55	28	56	25	71	35	66	30	80	30	72	35				
2...	53	29	54	32	62	28	63	30	40	—	54	34	53	32	57	30	51	23	74	35	68	29	81	32	73	40				
3...	43	11	57	27	63	28	66	36	30	—	51	25	51	11	58	32	50	21	76	36	71	29	82	33	76	45				
4...	45	8	63	28	64	29	69	38	28	—	58	25	50	11	61	31	54	21	76	37	75	31	79	33	76	46				
5...	46	10	58	30	68	30	70	40	30	—	63	25	50	18	63	28	59	26	80	37	80	34	83	31	78	46				
6...	40	1	59	23	68	30	71	38	30	—	60	24	52	11	65	33	60	22	69	38	76	33	83	31	79	43				
7...	45	6	60	26	68	31	70	42	32	—	61	25	52	11	62	35	62	27	78	38	75	33	82	34	78	40				
8...	42	7	52	24	62	32	65	32	36	—	55	25	49	9	60	30	60	28	72	39	72	31	80	34	79	42				
9...	37	14	48	30	54	28	54	33	26	—	46	25	48	18	53	32	54	23	69	40	60	30	72	37	69	43				
10...	42	—	55	20	55	24	58	31	35	—	50	19	43	4	55	22	55	20	58	38	62	29	71	32	65	40				
11...	43	3	60	20	58	26	64	32	30	—	55	23	47	7	58	24	60	21	71	32	68	25	75	27	62	35				
12...	46	1	62	21	61	26	67	36	35	—	59	23	51	7	58	27	64	22	76	35	71	27	79	29	60	30				
13...	45	1	65	19	64	30	68	36	34	—	60	24	50	8	62	25	64	23	77	38	72	29	78	37	65	32				
14...	45	6	65	20	61	30	69	38	36	5	61	24	54	8	63	30	63	24	74	39	73	30	74	40	67	33				
15...	44	8	64	21	48	34	62	40	40	26	62	27	56	10	58	36	68	29	69	44	66	40	71	38	68	35				
16...	46	10	63	22	57	31	68	33	41	26	60	24	52	13	65	30	67	30	73	39	71	35	77	34	69	37				
17...	47	8	64	23	62	30	70	38	44	28	62	26	54	19	67	33	67	28	78	40	74	35	80	36	70	43				
18...	49	10	70	25	65	31	72	41	42	16	64	54	54	19	66	35	72	29	82	42	77	35	80	42	71	45				
19...	48	17	72	26	70	33	76	42	46	13	69	30	57	18	68	34	73	29	82	44	80	37	82	42	72	45				
20...	55	22	75	29	69	35	76	46	54	17	72	30	58	18	70	39	76	32	82	44	82	36	81	47	72	44				
21...	57	25	72	32	67	35	77	50	60	19	71	30	58	20	68	29	75	40	83	45	84	41	85	41	70	40				
22...	53	18	68	48	68	32	76	50	57	22	69	29	64	23	67	25	74	31	82	50	80	37	78	48	71	45				
23...	47	25	55	30	60	33	67	42	53	35	59	45	54	29	62	20	69	36	67	41	75	44	68	50	50	50				
24...	45	22	58	22	62	27	65	34	55	29	61	18	59	17	68	35	64	24	72	37	72	33	72	31	71	55				
25...	47	19	60	25	53	31	69	45	56	24	66	22	59	23	69	32	65	30	68	40	70	41	66	34	73	53				
26...	37	17	53	34	45	31	54	38	46	19	56	35	58	31	65	31	55	35	58	34	70	36	58	43	72	50				
27...	45	12	55	23	57	23	62	32	50	25	57	32	52	28	69	24	56	30	60	38	61	34	56	38	72	35				
28...	38	27	50	33	43	19	54	37	55	25	50	33	54	24	52	26	53	34	55	40	60	38	51	36	66	25				
29...	33	19	46	21	43	14	45	36	35	27	44	24	41	12	55	20	50	27	57	40	54	37	58	31	58	32				
30...	41	18	57	16	54	27	57	25	45	15	49	15	45	7	52	21	57	16	65	36	60	29	68	36	55	27				
31...	51	16	62	23	59	22	63	32	55	20	60	19	57	13	61	26	67	22	71	37	67	30	73	32	60	35				
Means	45.2	13.3	59.7	25.9	50.6	29.2	65.3	37.1	41.6	12.0	58.5	26.1	52.7	16.6	61.7	29.1	61.9	26.7	71.0	39.0	70.7	33.5	74.2	35.5	69.7	40.2				

Arizona.																									
Date.	Bisbee.		Flagstaff.		Fort Apache.		Grand Canyon.		Parker.		Phoenix.		Prescott.		St. Michaels.		San Carlos.		Tucson.		Yuma.		Logan, Nev.		
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	
1.	70	44	63	25	76	25				95	41	84	48	73	28	59	26	83	34	84	39	91	49	82	36
2.	76	46	65	25	80	27				100	45	90	48	76	30	60	27	88	31	91	39	94	53	85	38
3.	78	51	66	26	80	31				100	46	87	52	77	31	62	26	89	33	90	42	95	55	87	44
4.	78	50	68	25	80	29				99	45	88	48	79	31	66	27	91	34	91	41	98	52	87	42
5.	77	51	68	27	81	30				98	46	92	50	78	30	67	26	91	33	96	44	97	52	85	41
6.	76	52	68	25	82	31				96	45	89	53	77	29	67	27	91	36	93	46	93	51	85	45
7.	76	53	66	26	82	30				92	45	85	53	74	43	67	26	90	37	88	43	91	53	85	42
8.	72	50	65	30	76	33				95	43	84	53	73	42	67	32	86	41	83	39	92	47	86	42
9.	67	46	60	24	74	32				93	44	82	48	69	30	57	27	82	36	81	42	86	47	80	52
10.	65	45	49	32	60	31				86	44	77	51	59	36	46	30	74	41	69	30	85	49	74	43
11.	59	36	54	25	70	24				89	42	78	54	65	36	56	24	73	38	77	43	87	53	80	39
12.	64	39	57	22	70	28				91	46	81	59	66	27	58	26	75	43	80	55	85	58	81	41
13.	69	49	57	28	69	31				93	55	80	59	66	32	60	26	79	43	84	54	89	58	82	44
14.	69	50	58	28	72	33				87	55	81	50	65	33	59	27	82	38	82	40	83	51	75	49
15.	60	49	57	29	70	37				88	50	79	51	63	29	56	27	79	39	93	45	84	53	77	43
16.	70	46	61	24	73	29				93	44	82	50	70	29	60	29	83	38	81	44	90	47	82	39
17.	74	48	63	26	77	30				89	47	84	52	73	29	63	30	86	38	84	42	86	57	85	41
18.	66	53	60	29	75	44				93	55	80	60	70	31	64	30	77	53	79	58	81	56	82	41
19.	66	48	62																						